

**REMARKS**

Applicant has reviewed the Office Action mailed on January 9, 2004, as well as the art cited. Claims 2-5 and 19-36 are currently pending in this application.

Applicant notes that the Office Action Summary sheet indicates that claims 2-5 and 19-35 are pending in this application when in fact claims 2-5 and 19-36 are pending in this application.

**Rejections Under 35 U.S.C. § 102**

Claims 2, 3, 19, 21-25 and 28-36 were rejected under 35 USC § 102(e) as being anticipated by Bingham et al., (U.S. Patent No. 5,644,573).

Applicant respectfully traverses this rejection.

**Claim 1**

Claim 1 is directed to a telecommunications system with a multi-carrier transmission scheme that dynamically allocates bandwidth among a plurality of service units. The system includes a head end that transmits data over a transmission medium to the service units, the head end comprising a modem circuit for narrow band transmission in at least one transmission channel, each transmission channel including a number of subbands having a number of payload channels and a control channel in each subband, a control circuit in the head end that assigns each service unit to a subband for transmission and receipt of data, and the control circuit is further operable to allocate a payload channel to a service unit in response to a request for a service unit.

Bingham et al. do not teach or suggest the telecommunications system of claim 1. In particular, Bingham et al. do not teach or suggest each transmission channel including a number of subbands having a number of payload channels and a control channel in each subband. There is no discussion of a control channel in each subband as found in claim 2. In contrast, Bingham et al. discuss discrete sub-channels versus a number of subbands having a number of payload channels and a control channel as found in claim 2. As a result, Bingham et al. do not anticipate the system of claim 2. Claim 2 should be allowed.

Claims 3-5 depend from and further define allowable claim 2 and for at least the reasons provided above with respect to claim 2, claims 3-5 should also be allowed.

Claim 19

Claim 19 is directed to a method for allocating bandwidth in a telecommunications system that uses a multi-carrier transmission scheme with transmission channels that include a number of subbands, each subband including a number of payload channels. The method includes selectively assigning service units to the subbands such that the service units of the telecommunications system are substantially evenly distributed over the number of subbands of the system and selectively allocating payload channels within a subband to service units assigned to the subband.

As discussed above with respect to claim 2, Bingham et al. do not teach or suggest subbands but in contrast discuss discrete sub-channels and as a result do not include a number of subbands, each subband including a number of payload channels nor selectively assign service units to the subbands and selectively allocate payload channels within a subband to service units assigned to the subband as found in claim 19. As a result claim 19 is not anticipated by Bingham et al. and should be allowed.

Claims 20-29 depend from and further define allowable claim 19 and for at least the reasons provided above with respect to claim 19, claims 20-29 should also be allowed.

Claim 30

Claim 30 is directed to a method for allocating bandwidth in a telecommunications system that uses a multi-carrier transmission scheme with transmission channels that include a number of subbands, each subband including a number of payload channels and at least one control channel. The method includes selectively assigning a first service unit to a subband located substantially at a center of the bandwidth and selectively assigning additional service units to the subbands such that the service units of the telecommunications system are substantially evenly distributed over the number of subbands of the system.

With respect to claim 30, Applicant refers the Examiner to the arguments presented above with respect to claims 2 and 19 and asserts that claim 30 is similarly not anticipated by Bingham et al. Further Applicant does not find that Bingham teaches or suggests selectively assigning a first service unit to a subband located substantially at a center of the bandwidth and selectively assigning additional service units to the subbands such that the service units of the

telecommunications system are substantially evenly distributed over the number of subbands as found in claim 30. As a result claim 30 is also allowable.

Claims 31-32 depend from and further define allowable claim 30 and for at least the reasons provided above claims 31 and 32 should also be allowed.

### Claim 33

Claim 33 is directed to a telecommunications system. The system includes a head end that transmits data over a transmission medium to a number of service units, the head end comprising a modem circuit for transmission in at least one of a number of subbands of a transmission bandwidth, each subband having a number of payload channels and a control channel, a control circuit in the head end that assigns each service unit to a subband such that the service units are substantially evenly distributed over the subbands and the control circuit is further operable to allocate a payload channel to a service unit in response to a request for bandwidth for a service unit.

With respect to claim 33, Applicant respectfully refers the Examiner to the arguments presented above with respect to claims 2, 19 and 30 and asserts that claim 33 is similarly not anticipated by Bingham et al.

As a result claim 33 is also allowable.

### Claim 34

Claim 34 is directed to a method for allocating bandwidth in a telecommunications system that uses a multi-carrier transmission scheme with transmission channels that include a number of subbands, each subband including a number of payload channels. The method includes selectively assigning a first service unit to a subband located substantially at a center of the bandwidth and selectively assigning additional service units to the subbands such that the load of the service units of the telecommunications system is substantially evenly distributed over the number of subbands of the system.

With respect to claim 34, Applicant respectfully refers the Examiner to the arguments presented above with respect to claims 2, 19, 30 and 33 asserts that claim 34 is similarly not anticipated by Bingham et al.

As a result claim 34 is also allowable.

Claim 35

Claim 35 is directed to a method for allocating bandwidth in a telecommunications system that uses a multi-carrier transmission scheme with a number of subbands, each subband including a number of payload channels. The method includes determining at least one characteristic of a service unit and selectively assigning the service unit to a subband based on the at least one characteristic such that the service units of the telecommunications system are substantially evenly distributed over the number of subbands of the system.

With respect to claim 35, Applicant respectfully refers the Examiner to the arguments presented above with respect to claims 2, 19, 30 and 33-35 and asserts that claim 36 is similarly not anticipated by Bingham et al.

Claim 36 depends from and further defines allowable claim 35 and for at least the reasons provided above claim 36 should also be allowed.

Rejections Under 35 U.S.C. § 103

Claims 4, 5, 26 and 27 were rejected under 35 USC § 103(a) as being unpatentable over Bingham et al., (U.S. Patent No. 5,644,573).

Applicant respectfully traverses these rejections.

Claims 4 and 5 depend from and further define patentable claim 2 and for at least the reasons provided above should also be allowed.

Claims 26 and 27 depend from and further define patentable claim 19 and for at least the reasons provided above should also be allowed.

The Examiner in paragraph 6 of the response states the following:

“Regarding a hybrid fiber-coax telecommunication systems and bit errors rates, if applicants do not seasonably traverse the well known statement during examination, then the object of the well known statement is taken to be admitted prior art. *In re Chevenard*, 139 F.2d 71, 60 USPQ 239 (CCPA 1943). A seasonable challenge constitutes a demand for evidence made as soon as practicable during prosecution. Thus, applicant is charged with rebutting the well known statement in the next reply after the Office action in which the well known use of the hybrid fiber-coax telecommunication systems and bit errors in the telecommunication system of Bingham, et al in order to increase the over all bandwidth of the telecommunication system by adding fiber cables and to correct errors during transmission of digital data.”

Unfortunately, the Examiner has not provided enough information for the Applicant to make a reply to the above statement. Applicant does not know what well known statement the Examiner is referring to and when it was allegedly made by the Examiner. As a result, Applicant finds that the Examiner's action is not complete as to all matters. 37 CFR §1.104(b) In order for Applicant to have the opportunity to properly reply to the Examiner's assertions the Applicant requires sufficient information regarding the rejection.

Applicant requests a non-final office action including the basis for the Examiner's assertion that Applicant did not seasonably traverse a well known statement including what that well known statement is.

Applicant requests that the Examiner make specific note that the Applicant traverses all rejections presented in the Office Action of January 09, 2004 and further with respect to the rejections under 35 USC §103(a) does not find that it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to incorporate the well known use of hybrid fiber-coax telecommunication systems and bit error rates in the telecommunication system of Bingham et al. in order to increase the overall bandwidth of the telecommunication system by adding fiber cables and to correct errors during transmission of digital data as asserted by the Examiner.

The Examiner takes Official Notice that "the head end compr[om]ises at least one modem circuit for each transmission channel. A head end compr[om]ises at least one modem circuit for each transmission channel is well known in the art, it is called a modem bank." Further the Examiner asserts that "it would have been obvious to incorporate the use of the head end compr[om]ises at least one modem circuit for each transmission channel in the telecommunication system of Bingham et al. in order to have a large bandwidth and dependable transmission of data.

Applicant respectfully traverses the Examiner's assertions and requests that the Examiner cite a reference in support of his position in accordance with MPEP § 2144.03.

#### Allowability of Claims

Although claim 20 is listed on the Office Action sheet as being rejected, the Examiner has provided no basis for the rejection of claim 20. As a result Applicant submits that claim 20 is allowable and notification to that effect is earnestly requested.

Serial No.: 09/903,273

Filing Date: July 11, 2001

Attorney Docket No. 100.070US27

Title: DYNAMIC BANDWIDTH ALLOCATION

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Reservation of Right

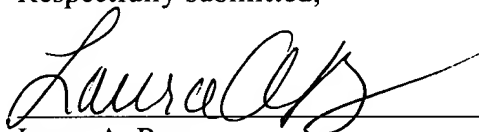
Applicant expressly reserves the right to swear behind any reference cited by the Examiner under 35 U.S.C. §102(e), 102(a), or 102(e). Any statements regarding these references are not an admission that the references are acceptable prior art.

CONCLUSION

Applicant respectfully submits that claims 2-5 and 19-36 are in condition for allowance and notification to that effect is earnestly requested. If necessary, please charge any additional fees or credit overpayments to Deposit Account No. 502432.

If the Examiner has any questions or concerns regarding this application, please contact the undersigned at (612) 332-4720.

Respectfully submitted,

Date: 6/8/2004

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